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**REMARKS**

Applicants wish to thank the Examiner for considering the present application. In the Office Action dated December 20, 2004, Claims 1-25 are pending in the application. Claims 26-28 have been added hereto. Claims 2-6, 8, and 16-21 have been canceled. Applicants respectfully request the Examiner to reconsider the rejections in view of the amendments above.

Claim 24 stands rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Applicants have amended Claim 24 to be dependent from Claim 23 as suggested by the Examiner. Applicants believe that this rejection is now overcome.

Claims 1-6, 8, 13, 22, and 25 stand rejected under 35 U.S.C. §102(b) as being anticipated by *Arthurs* (4,873,681). Applicants have amended Claim 1 to reflect that the control circuit controls more than one tunable laser and the tunable center wavelength, and that it also controls more than one tunable optical bandpass filter so that the control circuit couples at least one input signal of the plurality of input signals to at least one of the plurality of respective electrical output signals and couples more than one of the plurality of input signals to only one of the plurality of respective electrical output signals. That is, the control circuit of the present application provides advantageous properties that any input data signal can be coupled to one or more output data signals, and one or more input data signals can be coupled to a single output data signal. These properties, which are not illustrated in the *Arthurs* reference, are enabled by requiring the output optical-to-electrical converters to incorporate a tunable receiver. Support for these claim amendments may be found in various places of the specification including paragraphs 35 and 36. Note that paragraph 35 explicitly states the important requirement that when coupling multiple input signals to a single output signal, "attention must be paid to the relative timing of the signals to avoid any 'collisions' between the multiple signals passing through the same filter."

The Examiner correctly pointed out that the *Arthurs* reference does mention the use of tunable receivers as well as fixed-wavelength receivers. However, the *Arthurs* reference clearly states, specifically in Figures 1 and 4 as well as Claim 1 (lines 14-16), that the tunable receivers are only utilized in the "second optical network for transmitting said status information from said output ports to said input ports," not the data "transport" network. This same type of statement is repeated in Claim 4 (lines 42-44), Claim 6 (lines 17-19), Claim 8 (lines 61-63), Claim 9 (lines 24-26). At the same time, *Arthurs et al.* also explicitly show in Figures 1 and 3, and state repeatedly (see Claims 3, 4, 8, and 11) that the output ports contain a fixed-wavelength optical receiver. The critical point is that *Arthurs et al.* were obviously aware of the availability of

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tunable receivers, but they did not teach the advantageous utilization of tunable receivers in the data transport network. In contrast, the present application teaches that tunable lasers can be used in the data transport network, and this represents a significant departure from the *Arthurs* reference.

Claims 2-6 have been canceled. Claim 8 has also been canceled.

Claim 13 depends from Claim 1, which has been substantially amended. Applicants respectfully believe Claim 13 is also allowable for the same reasons set forth above with respect to Claim 1.

Claim 22 has been substantially amended in a similar manner to that described above with respect to Claim 1. Claim 22 is a method claim that now includes the steps of selecting respective program wavelengths for a plurality of tunable lasers and bandpass center wavelengths for the plurality of bandpass filters. The claims also recite controlling at least one tunable laser and the tunable center wavelength as well as at least one output filter and the tunable receiver center wavelength so that at least one input of the plurality of input signals is coupled to one or more of the plurality of respective electrical output signals, and so that one or more of the plurality of input signals is coupled to at least one of the plurality of respective output signals.

Likewise, Claim 25 is dependent from Claim 22 and is also believed to be allowable for the same reasons set forth above.

Claim 12 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Arthurs*. Applicants have substantially amended Claim 1 and believe that Claim 12 is now allowable over the *Arthurs* reference.

Claims 7, 16, 17, 20, and 21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Arthurs* in view of *Kogelnik* (4,787,693). Applicants respectfully submit that the *Kogelnik* reference also does not teach or suggest the operation of Claim 1. Applicants therefore respectfully request the Examiner to reconsider the rejection of Claim 7 as well.

Claims 16-21 have been canceled.

Claims 14 and 15 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Arthurs* in view of *Kintis* (5,661,582). Claims 14 and 15 ultimately depend from Claim 1 and are believed to be allowable for the same reasons set forth above. The *Kintis* reference also is not believed to teach the elements missing from the *Arthurs* reference described above. The *Kintis* reference is extremely complex, involving optical amplifiers and external modulators. The combination set forth in Claim 1 is much simpler than that set forth in the *Kintis* reference. Also, the *Kintis* reference does not teach or suggest that a control circuit couples a first input signal of

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the plurality of input signals to more than one of the plurality of respective electrical output signals and couples more than one of the plurality of input signals to only one of the plurality of respective electrical output signals. The *Kintis* reference teaches that the bandpass filters have only one non-interfering bandpass frequency selected. Applicants therefore respectfully request the Examiner to reconsider the rejections of Claims 14 and 15 as well.

Claim 9 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Arthurs* in view of *Bailey* (6,470,036). Applicants have amended Claim 9 to depend from Claim 1. Claim 1 has been substantially amended as described above and the *Bailey* reference does not teach or suggest the limitations. Therefore, Claim 9 is also believed to be allowable.

Claim 18 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Arthurs* in view of *Kogelnik* in further view of *Bailey*. Applicants have canceled Claim 18.

Claims 10 and 11 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Arthurs* in view of *Nishihara* (6,512,616) and *Davidson* (6,239,892). Applicants have amended Claim 1 from which Claims 10 and 11 ultimately depend. Claim 11 has been amended to describe that the clock synchronization is passive. That is, the optical delay line length corresponds to the optical path length of the mixing circuit so that passive clock synchronization is achieved. The control schemes for the clock synchronization set forth in the *Arthurs* and *Davidson* references are complex and require active programming of the optical delay line (the Examiner has eliminated the word "programmable" when referring to the *Davidson* optical delay line). Similarly, the *Nishihara* reference also does not teach or suggest the limitations missing from Claim 1. Applicants therefore respectfully request the Examiner to reconsider the rejection of Claims 10 and 11 as well.

Claims 23 and 24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Arthurs* in view of *Nishihara*. As mentioned above, the *Nishihara* reference also does not teach or suggest the elements missing from Claim 22 which are similar to those of Claim 1. Applicants therefore respectfully request the Examiner to reconsider the rejections of Claims 22 and 23.

Claim 19 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Arthurs* in view of *Kogelnik* in further view of *Nishihara* and *Davidson*. Claim 19 has been canceled above.

In light of the above amendments and remarks, Applicants submit that all objections and rejections are now overcome. Applicants have added no new material to the application by these amendments. The application is now in condition for allowance and expeditious notice thereof is earnestly solicited. Should the Examiner have any questions or

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comments which would place the application in better condition for allowance, he is respectfully requested to call the undersigned attorney.

Please charge any fees required in the filing of this amendment to Deposit Account No. 50-0476.

Respectfully submitted,



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